DEPARTMENT OF VETERANS AFFAIRS MEDICAL CENTER - WADE PARK

10701 EAST BLVD. CLEVELAND, OH. 44106

Boiler Plant Energy Upgrades

PROJECT NO. 541-11-105

Veterans Administration Medical Center



CODE INFORMATION

DESIGN CODES:

2009 Life Safety Code, 2009 IBC

OCCUPANCY, USE GROUP:

Health Care, I-2

TRAVEL DISTANCES: (LSC 18.2.6)

Room Remote Point to Exit: 200'

Exit Access door to Exit: 150'

TYPE OF CONSTRUCTION: (LSC A.8.2.1.2)

Type 1 - 332, 1B
STRUCTURAL COLUMNS: (LSC A.8.2.1.2)
3 Hours - Supporting more than 1 floor
2 Hours - Supporting one floor only

2 Hours - Supporting roof only
FLOOR - CEILING ASSEMBLIES: (LSC A.8.2.1.2)
2 Hours

ROOF - CEILING ASSEMBLIES: (LSC A.8.2.1.2) $1\frac{1}{2}$ Hours INTERIOR NONBEARING WALLS: (LSC A.8.2.1.2)

0 Hour
EXIT ENCLOSURES (LSC 7.1.3.2.1)
Existing: 1 Hour

SHAFT ENCLOSURES (LSC 8.6.5)
4 Stories or more: 2 Hours
Less than 4 stories: 1 Hour
SMOKE BARRIERS: (LSC 18.3.7.4)

1 Hour
EXIT ACCESS CORRIDORS: (LSC 8.3.6.2.2)

0 Hour, Smoke Partitions
SUITE WALLS: (18.2.5.6.1.2)
0 Hour, Smoke Partitions

HAZARDOUS AREA PROTECTION (LSC 18.3.2.1)
Storage rooms larger than 100 sf: 1 Hour

DRAWING INDEX

1-X0 COVER SHEET

ARCHITECTURAL

1-01 SYMBOLS, ABBREVIATIONS, PARTIAL PLANS, AND ELEVATION

STRUCTURAL

I-S1 PARTIAL BOILER HOUSE ROOF PLAN AND GENERAL NOTES

HEATING, VENTILATION AND AIR CONDITIONING

H1 MECHANICAL SYMBOLS, NOTES, AND EQUIPMENT LIST
H2 BOILER ROOM BASEMENT MECHANICAL PLAN

1-H3 BOILER ROOM DASEMENT MECHANICAL PLAN

1-H3 BOILER ROOM OPERATING FLOOR MECHANICAL PLAN

1-H4 BOILER ROOM MAIN PLATFORM MECHANICAL PLAN

1-H5 MECHANICAL DETAILS

1-H6 MECHANICAL DETAILS
1-H7 BOILER PLANT PIPING SYSTEMS DIAGRAM

ELECTRICAL

-E1 ELECTRICAL LEGEND

1-E1 BOILER ROOM OPERATING FLOOR ELECTRICAL PLAN

ELECTRICAL ONE LINE DIAGRAM

Fredrick, Fredrick & Heller Engineers, Inc.

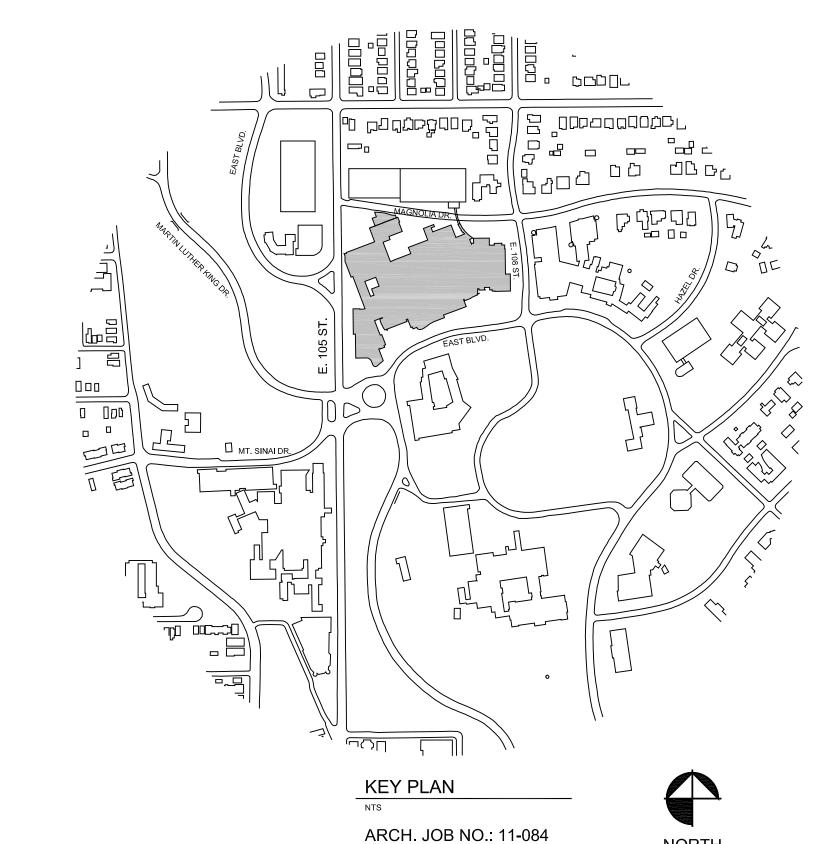
Mechanical & Electrical Engineer 672 East Royalton Road, Broadview Heights, Ohio 44147

Perspectus Architecture LLC

Architect 13212 Shaker Square Suite 204 Cleveland, Ohio 44120

Barber & Hoffman, Inc.

Structural Engineer 1100 West 9th Street, Cleveland, Ohio 44113

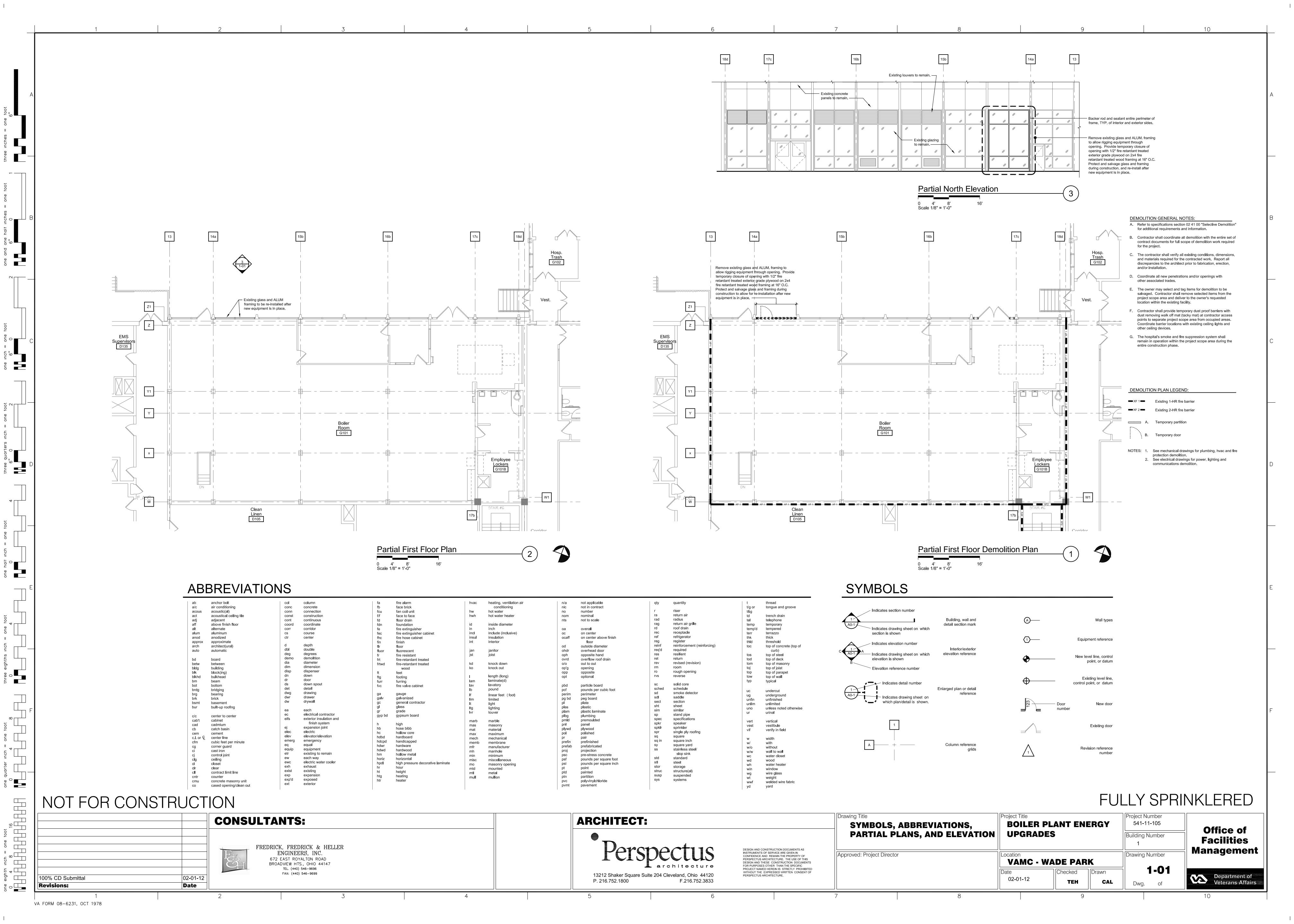


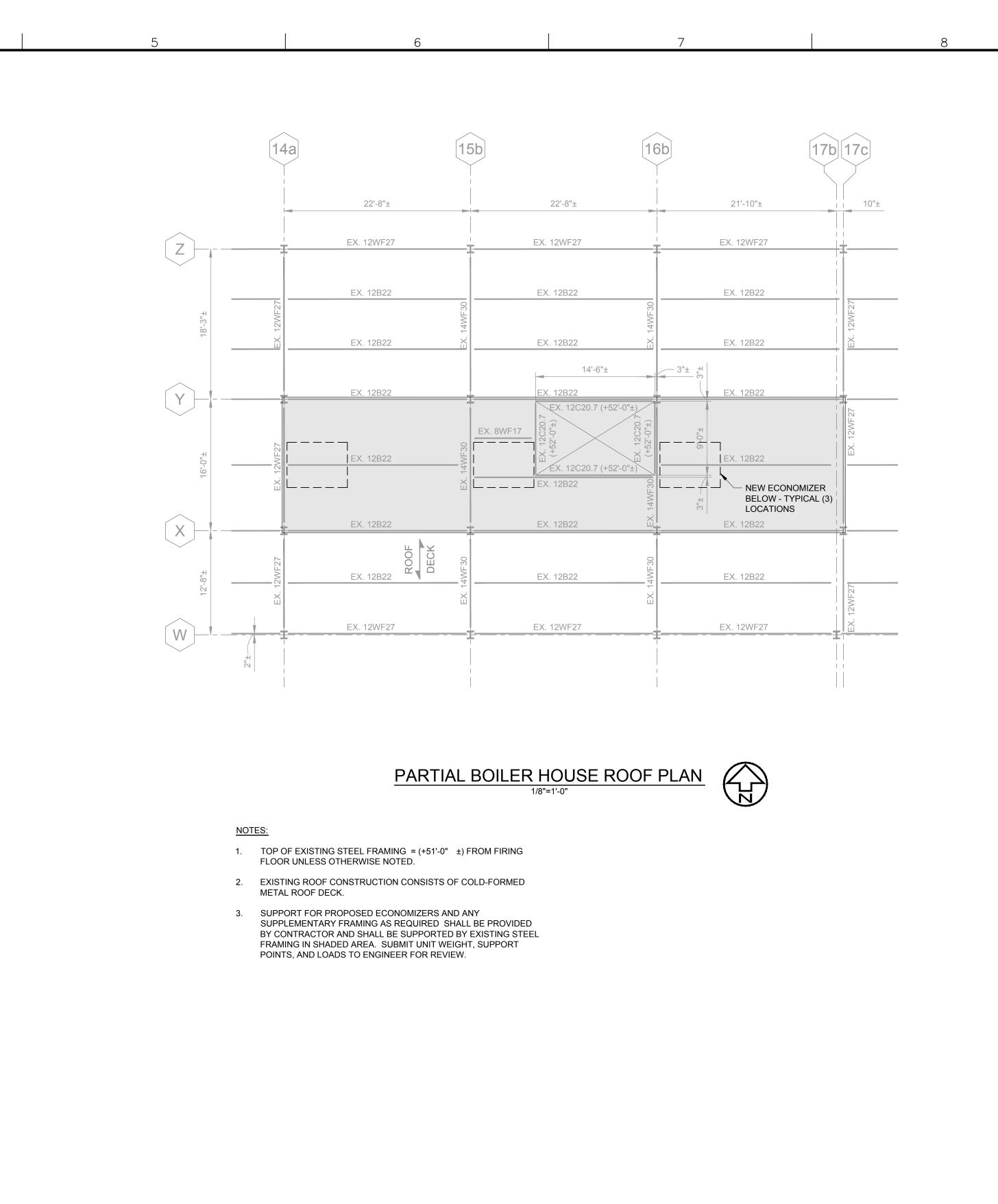
100% CD Submittal

February 01, 2012

NORTH APPROVALS **APPROVALS APPROVALS** DATE DATE DATE 02-01-12 **COVER SHEET BOILER PLANT ENERGY** Office of **Facilities UPGRADES** DIRECTOR 00 FACILITY MANAGER CHIEF Planning and Construction 541-11-105 Management Approved: Division Chief Checked DRAWING NO. ASSOCIATE DIRECTOR 00A (B) CHIEF, Occupational Health & Safety SHOP FOREMAN 138 TEH CAL 1-X0 Department of Veterans Affairs Approved: Service Director CHIEF, IRM CHIEF, ENGINEERING 138 10701 EAST BLVD. CLEVELAND, OHIO

VA FORM 08-6231, FEB. 1983





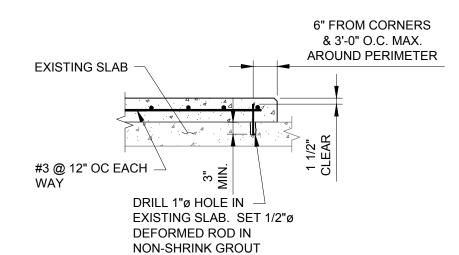


- New construction has been designed to, and shall be constructed in accordance with the following building codes and standards:
 A. 2009 International Building Code (IBC 2009)
- B. ASCE/SEI 7-05, Minimum Design Loads for Buildings and Other Structures
 2. Unless explicitly modified in the Contract Drawings and Specifications, the Contractor shall comply with provisions of:

A. ANSI/AISC 360-05 Specification for Structural Steel Buildings

DESIGN LOADS

(1) Rain-on-snow surcharge (ASCE 7, 7.10) applied only to balanced snow load



NOTES:

1 RASE SLAB PREPARATION: CLEAN AND POLICHEN SLAB AND APPLY

- BASE SLAB PREPARATION: CLEAN AND ROUGHEN SLAB AND APPLY BONDING AGENT PER MANUFACTURER'S WRITTEN DIRECTIONS.
 CONCRETE MIX: NOT LESS THAN 3,000 PSI, 4" MAXIMUM SLUMP,
- TYPE III CEMENT.

 3. CURING CURE FOR MINIMUM 3 DAYS BY EITHER OF THE FOLLOWING METHODS:
- A. COVER WITH BURLAP AND KEEP CONTINUOUSLY WET.
 B. COVER WITH 6 MIL PLASTIC SHEETING. TAPE TO BASE SLAB AND ALL JOINTS

MECHANICAL HOUSEKEEPING PAD DETAIL

NOT FOR CONSTRUCTION

100% CD Submittal 02-01-12
Revisions: Date

FREDRICK, FREDRICK & HELLER
ENGINEERS, INC.
672 EAST ROYALTON ROAD
BROADVIEW HTS., OHIO 44147
TEL. (440) 546-9696
FAX: (440) 546-9699

CONSULTANTS:

1100 West 9th Street
Cleveland, OH 44113-1003
216-875-0100/ (F) 216-875-0111
barberhoffman.com

BARBER & HOFFMAN, INC.

Consulting Engineers

Perspectus

13212 Shaker Square Suite 204 Cleveland, Ohio 44120
P. 216.752.1800

F.216.752.3833

DESIGN AND CONSTRUCTION DOCUMENTS AS INSTRUMENTS OF SERVICE ARE GIVEN IN CONFIDENCE AND REMAIN THE PROPERTY OF PERSPECTUS ARCHITECTURE. THE USE OF THIS DESIGN AND THESE CONSTRUCTION DOCUMENTS FOR PURPOSES OTHER THAN THE SPECIFIC PROJECT NAMED HEREIN IS STRICTLY PROHIBITED WITHOUT THE EXPRESSED WRITTEN CONSENT OF PERSPECTUS ARCHITECTURE.

Project Title
PARTIAL BOILER HOUSE ROOF
PLAN AND GENERAL NOTES

Approved: Project Director

Location
VAMC

BOILER PLANT ENERGY
UPGRADES

Building Number
1

Drawing Number
1

Drawing Number
1

Drawing Number
1

Checked
JAM
Drawn
LJP
Dwg. of

Office of
Facilities

Management

FULLY SPRINKLERED

Department of Veterans Affairs

| 1 VA FORM 08-6231, OCT 1978

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EQUIPMENT LIST GENERAL INFORMATION: STEAM HEADER SET PRESSURE: 125 PSIG NORMAL 90 PSIG LOW DEMAND PERIODS ALTITUDE OF OPERATING FLOOR: 664'-0" ABOVE SEA LEVEL BU BU BU BU NEW LOW NOX BURNERS TO BE RETROFITTED TO EXISTING BOILERS B-1, B-2, AND B-3. EACH BOILER BURNER SHALL PROVIDE PERFORMANCE AS FOLLOWS: AND B-3. EACH BOILER BURNER SHALL PROVIDE PERFORMANCE AS FOLLOWS: MAXIMUM CONTINUOUS CAPACITY REQUIRED: 25,000 LBS/HR OPERATING PRESSURE: 125 PSIG MAXIMUM AT HIGH FIRE STEAM QUALITY: 99% MINIMUM DESIGN PRESSURE: 200 PSIG MINIMUM FUELS TO BE FIRED: NATURAL GAS AND NO. 2 FUEL OIL MAXIMUM EMISSIONS OF NOx: 30 PPM NATURAL GAS 90 PPM NO. 2 FUEL OIL DESCRIPTION: EXISTING WINDBOX ASSEMBLY, FUEL TRAINS, COMBUSTION CONTROL SYSTEM AND BURNER MANAGEMENT SYSTEM TO BE REUSED. NEW EQUIPMENT WILL INCLUDE A REGISTER ASSEMBLY, FORCED DRAFT FAN ASSEMBLY WITH MOTOR (WITH VARIABLE FREQUENCY DRIVE), SILENCER, FGR DUCTWORK, AND INLET AIR/FGR MIXING BOX. REFER TO DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. ______ BOILER EXHAUST ECONOMIZER (NON-CONDENSING, STANDARD) TO BE PROVIDED ON EACH OF 3 EXISTING 25,000 LBS/HR BOILERS (B-1, B-2, B-3). ECONOMIZER SHALL BE INSTALLED IN EXISTING BOILER FLUE STACK DIRECTLY ABOVE THE HEIGHT OF THE BOILERS. EACH ECONOMIZER SHALL BE PIPED TO THE RESPECTIVE BOILER FEEDWATER. DESIGN PRESSURE: 300 PSIG @ 650°F. TEST PRESSURE: 450 PSIG MAXIMUM FLUE INLET TEMPERATURE: 750°F FINS: ALUMINUM, 6 FINS/INCH TUBE: STAINLESS STEEL, 1 INCH O.D., 0.065" WALL THICKNESS REFER TO SCHEDULE FOR PERFORMANCE CRITERIA. REFER TO DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. ______ CONTINUOUS BLOWDOWN HEAT RECOVERY SYSTEM SHALL BE PROVIDED TO HANDLE CONTINUOUS SURFACE BLOWDOWN FROM ALL FOUR BOILERS. THE SYSTEM SHALL CONSIST OF A SKID-MOUNTED, PACKAGED SYSTEM, WHICH INCLUDES, BUT IS NOT LIMITED TO: FLASH RECEIVER (ASME), BRAZED PLATE HEAT EXCHANGER, TRAPS, GAGES, VALVES, THERMOMETERS, SAMPLING DEVICES. THE SYSTEM SHALL HAVE A MAKEUP CAPACITY OF 10,000 LBS/HR. HEAT RECOVERED SHALL BE USED TO HEAT SOFTENED WATER USED FOR MAKEUP TO THE DEAERATOR TANK. FLASH STEAM FROM RECEIVER SHALL BE PIPED TO DEAERATOR. APPROXIMATE SIZE OF PACKAGED EQUIPMENT IS 43"Lx18"Wx54"T. SHIPPING WEIGHT = 650 LBS. REFER TO DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. CONTRACTOR SHALL FURNISH AND INSTALL EQUIPMENT ABOVE ALONG WITH ALL APPURTENANCES INDICATED ON THE PLANS AND LISTED IN THE

2. CONTRACTOR SHALL REFERENCE FINAL, SELECTED MANUFACTURER'S

3. CONTRACTOR SHALL CONSIDER FIELD CONDITIONS AND EXISTING EQUIPMENT

4. EACH SYSTEM SHALL BE A FULLY FUNCTIONAL, COMPLETE SYSTEM. EACH

ALL ADDITIONAL REQUIREMENTS AS OUTLINED IN SPECIFICATIONS.

RETROFIT CAPABILITIES PRIOR TO SUBMITTING SHOP DRAWINGS OF SELECTED

SYSTEM SHALL BE PROVIDED START-UP SERVICES, TESTS, BALANCING, AND

GENERAL NOTES:

- A. LOCATIONS AND ROUTING OF EXISTING PIPING, DUCTWORK AND EQUIPMENT IS PRESUMED FROM EXISTING DRAWINGS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL PRIOR TO COMMENCEMENT OF CONSTRUCTION. NOTIFY ENGINEER OF ANY CONDITIONS WHICH WILL NOT PERMIT THE WORK TO BE PERFORMED AS INDICATED ON THESE DRAWINGS.
- B. COORDINATE ALL SHUT-DOWNS OF EXISTING MECHANICAL SYSTEMS WITH OWNER A MINIMUM OF TEN WORKING DAYS IN ADVANCE.
- C. PRIOR TO INSTALLATION, VERIFY PRECISE LOCATION OF NEW WALL MOUNTED DEVICES WITH OWNER AND ARCHITECT. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR PRECISE LOCATION OF CEILING MOUNTED DEVICES. COORDINATE ROOF MOUNTED EQUIPMENT WITH ARCHITECT PRIOR TO INSTALLATION.
- D. PROVIDE ADEQUATE SERVICE CLEARANCE FOR ALL MECHANICAL EQUIPMENT. REFER TO
- INSTRUCTIONS FROM THE EQUIPMENT MANUFACTURER. E. NEW DUCTS OR PIPING SHALL NOT BE ROUTED ABOVE ELECTRICAL PANELS. REFER TO
- ELECTRICAL DRAWINGS FOR LOCATION OF PANELS. F. DAMPERS AND VALVES SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION.
- G. NO TEMPERATURE SENSING CONTROL DEVICES SHALL BE LOCATED OVER HEAT PRODUCING
- H. INSTALL ALL EQUIPMENT TO BE DEAD LEVEL. K. ALL ITEMS THAT REQUIRE ACCESS, SUCH AS FOR OPERATING, CLEANING, SERVICING,
- MAINTENANCE, AND CALIBRATION, SHALL BE EASILY AND SAFELY ACCESSIBLE BY PERSONS STANDING ON THE FLOOR LEVEL. OR STANDING ON PERMANENT PLATFORMS. WITHOUT THE USE OF PORTABLE LADDERS. EXAMPLES OF THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO: ALL TYPES OF VALVES, FILTERS AND STRAINERS, TRANSMITTERS, CONTROL DEVICES. PRIOR TO COMMENCING INSTALLATION WORK, REFER CONFLICTS BETWEEN THIS REQUIREMENT AND CONTRACT DRAWINGS TO THE COTR FOR RESOLUTION.
- . ALL NEW EQUIPMENT SHALL BE INSTALLED IN COMPLIANCE WITH THE VHA BOILER PLANT SAFETY DEVICE TESTING MANUAL, THIRD EDITION. REFER TO SPECIFICATIONS FOR ADDITIONAL
- M. A MAXIMUM OF <u>ONLY ONE</u> BOILER (OF 4 TOTAL) SHALL BE SHUTDOWN AT A TIME DURING CONSTRUCTION. THE THREE REMAINING BOILERS SHALL BE CAPABLE OF OPERATING DURING THE PERIOD OF A SINGLE BOILER SHUTDOWN. NO EXCEPTIONS. INDIVIDUAL BOILER SHUTDOWNS SHALL BE ILLUSTRATED AND HIGHLIGHTED ON PROJECT CONSTRUCTION SCHEDULE, COORDINATE SCHEDULING WITH VA COTR AND BOILER PLANT MANAGER.

COMMISSIONING NOTES:

- A. ALL WORK ASSOCIATED WITH THE BOILERS SHALL BE COMMISSIONED. THE MECHANICAL CONTRACTOR, CONTROLS CONTRACTOR, TAB CONTRACTOR, AND COMMISSIONING AGENT SHALL WORK TOGETHER TO FULLY COMMISSION ALL OF THE MODIFIED AND NEW EQUIPMENT AS OUTLINED IN THE PLANS.
- B. THE VA COTR AND CENTRAL PLANT SUPERVISOR SHALL WITNESS COMMISSIONING FOR EACH MODIFIED AND NEW EQUIPMENT.
- C. CONTRACTORS SHALL REFERENCE THE COMMISSIONING SPECIFICATIONS FOR A DETAILED
- DESCRIPTION OF THE SCOPE OF WORK.
- D. CONTRACTORS SHALL BE RESPONSIBLE FOR CORRECTING ANY DEFICIENCIES AND RE-COMMISSIONING ANY CORRECTED WORK.
- THE SCOPE OF THIS PROJECT INCLUDES COMMISSIONING BY AN INDEPENDENT COMMISSIONING AGENT OUTLINED IN THE SPECIFICATIONS. THE WORK, EQUIPMENT, AND SYSTEMS TO BE COMMISSIONED SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
- 1. NEW BOILER BURNERS AND ASSOCIATED FANS AND ACCESSORIES 2. NEW FLUE ECONOMIZERS

3.	NEW	BLOWDOWN	HEAT	RECOVERY	EQUIPMENT	

ECONOMIZER, FLUE GAS/FEEDWATER HEAT EXCHANGERS														
MARK	LOCATION	SYSTEM AND/OR SERVICE	QUANTITY	HEAT RECOVERED (BTUH)	WATER FLOW (GPM)	EWT (°F)	LWT (℉)	MAX PRESSURE DROP WATERSIDE (PSIG)	FUEL GAS FLOW (SCFM)	FLUE GAS ENTERING TEMP (°F)	FLUE GAS LEAVING TEMP (°F)	MAX PRESSURE DROP GAS SIDE WC (IN)	PHYSIO WET WGT (LBS)	DIMENSIONS (LxWxH)
FHX-1	BOILER PLANT	BOILER #1	1	1,113,000	50	227	274	0.09	6099	510	357	0.42	2,500	80"x66"x50.3"
FHX-2	BOILER PLANT	BOILER #2	1	1,113,000	50	227	274	0.09	6099	510	357	0.42	2,500	80"x66"x50.3"
FHX-3	BOILER PLANT	BOILER #3	1	1,113,000	50	227	274	0.09	6099	510	357	0.42	2,500	80"x66"x50.3"

- 1. SCHEDULE LISTS MINIMUM HEAT RECOVERED AT 100% BOILER LOAD.
- 2. PERFORMANCE LISTED IS BASED ON NATURAL GAS FUEL.

<u>variable freque</u>	<u>incy drive</u>	<u>S</u>	
MARK	VFD-1	VFD-2	VFD-3
EQUIPMENT SERVED	BOILER #1 FORCED DRAFT FAN	BOILER #2 FORCED DRAFT FAN	BOILER #3 FORCED DRAFT FAN
MOTOR HORSEPOWER	25	25	25
ELECTRICAL			
VOLTS-PHASE-HERTZ	480-3-60	480-3-60	480-3-60
MCA	_	_	_
MOCP	_	-	_
ACCESSORIES			
UL LISTED	YES	YES	YES
BYPASS	YES	YES	YES
FUSED DISCONNECT, INTERLOCKING TYPE	YES	YES	YES
HARMONICS REDUCTION	YES	YES	YES
FACTORY AUTHORIZED STARTUP	YES	YES	YES
BUILDING CONTROLS NETWORK INTERFACE CARD	YES	YES	YES

- NOIES:

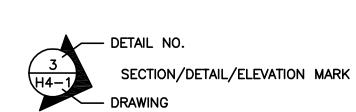
 1. PROVIDE FACTORY START-UP FOR EACH VFD. PROVIDE ALL NECESSARY CARDS, HARDWARE, AND PROGRAMMING REQUIRED TO LET THE EXISTING BOILER CONTROL
- SYSTEM CONTROL THE DRIVE, CHANGE SET-POINTS, AND READ OUTPUTS. VFDS SHALL BE CAPABLE OF STOPPING A REVERSE SPINNING MOTOR, AND CATCHING-UP WITH A FORWARD
- WORK WITH BURNER MANUFACTURER REPRESENTATIVE TO SET MAXIMUM AND MINIMUM LIMITS FOR EACH VFD.
- PROVIDE NEMA 12 ELECTRICAL CONTROL CABINET WITH LOUVERED VENTS AND COOLING FAN. SEPARATE 120VAC, 4 AMP ELECTRICAL SUPPLY TO THE COOLING FAN. COORDINATE POWER WITH EC.
- DIMENSIONS: 30"W x 12"L x 30"T
- VFDS SHALL RUN IN MANUAL MODE UPON COMPLETION OF THIS PROJECT. VARIABLE DRIVE CONTROL SHALL BE ACCOMPLISHED AS PART OF A FUTURE PROJECT.

WATER LEVEL CONTROL VALVE SCHEDULE SYSTEM AND/OR QUA. CAPACITY AT FLOW WATER SHUT-OFF VALVE RANGE TEMP PRESSURE MARK LOCATION DIFFERENTIAL PRESSURE SERVICE PIPE SIZE PRESSURE (GPM) (°F) (PSIG) (PSIG) (IN) SOFT WATER 1-1/2" LCV-1C | BOILER PLANT YES 20 GPM, 20 PSI | 0-25

MECHANICAL SYMBOLS:

CALL OUTS:

REFERENCE TO CODED NOTE REFERENCE TO GENERAL NOTE EQUIPMENT OR FIXTURE MARK



<u>ABBREVIATIONS:</u>

CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE CONNECT TO EXISTING PLUMBING CONTRACTOR FIRE SUPPRESSION CONTRACTOR HVAC CONTRACTOR TEMPERATURE CONTROL CONTRACTOR

GENERAL TRADES CONTRACTOR ELECTRICAL CONTRACTOR

SUPPLY AIR

ABOVE FINISHED FLOOR ACCESS DOOR NORMALLY OPEN

EXHAUST AIR

MOTOR OPERATED DEVICE

NORMALLY CLOSED

VARIABLE FREQUENCY DRIVE FOR MOTOR

FUEL OIL PUMP FLUE GAS RECIRCULATION

ROOF OPENING

TEST AND BALANCE

VENT THROUGH ROOF

DUCTWORK SYMBOLS:

RECTANGULAR DUCT SIZE

ROUND DUCT SIZE BOILER FLUE UP

BOILER FLUE DOWN

12x12* INDICATED TO BE ROUTED WITHIN BEAM/JOIST SPACE

INDICATES TRANSITION

GENERAL SYMBOLS:

EXISTING TO BE REMOVED -----

EXISTING TO BE RELOCATED -----POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK

LIMIT OF DEMOLITION

FULLY SPRINKLERED

MECHANICAL PIPING:

HEIGHT OF BOTTOM OF PIPE ABOVE FLOOR

BOILER FEED WATER PUMP DISCHARGE

HIGH PRESSURE CONDENSATE RETURN

LOW PRESSURE CONDENSATE RETURN

CONDENSATE TRANSFER PUMP DISCHARGE

CONDENSATE TRANSFER PUMP SUCTION

BOILER FEED WATER PUMP SUCTION

HIGH PRESSURE STEAM

LOW PRESSURE STEAM

COMPRESSED AIR

BOILER BLOWDOWN

DOMESTIC COLD WATER

PUMPED CONDENSATE

NATURAL GAS

SOFTENED WATER

FUEL OIL SUPPLY

CHECK VALVE

REDUCER

STRAINER

PIPE GUIDE

TRIPLE DUTY VALVE

BALANCING VALVE

 \rightarrow

→/**→**

PUMPED RECIRCULATION

SAFETY VENT RELIEF PIPING

PLUMBING SANITARY WASTE PIPING

CHEMICAL TREATMENT (BOILER)

SOLENOID VALVE (TWO POSITION)

(SHUTOFF, BALANCE, CHECK)

FLEXIBLE PIPE CONNECTOR

PIPE EXPANSION ANCHOR

GAUGE PORT (PETE'S PLUG)

DRAIN VALVE WITH HOSE FITTING

PUMP SUCTION DIFFUSER WITH STRAINER

HIGH CAPACITY AUTOMATIC AIR VENT

LOCAL DRAIN, VALVED WITH 3/4"

THREADED CONNECTOR

PRESSURE RELIEF VALVE

3-WAY CONTROL VALVE

2-WAY CONTROL VALVE

PRESSURE GAUGE

CHARGING VALVE

NORMALLY OPEN

NORMALLY CLOSED

MANUAL AIR VENT

STEAM SERVICE)

ECCENTRIC REDUCER

SIDE CONNECTION

DIRECTION OF FLOW

PRESSURE RELIEF VALVE

PRESSURE GAUGE (WITH SYPHON ON

SHUTOFF VALVE IN VERTICAL PIPE

TOP CONNECTION, 45° OR 90°

BOTTOM CONNECTION, 45° OR 90°

WATER FLOW MEASURING DEVICE

Dwg.

FLOAT & THERMOSTATIC STEAM TRAP

THERMOMETER IN PIPE WELL

NOT FOR CONSTRUCTION **CONSULTANTS:** 00% CD Submission 02-01-12 Revisions: Date

FREDRICK, FREDRICK & HELLER ENGINEERS, INC. 672 EAST ROYALTON ROAD BROADVIEW HTS., OHIO 44147 TEL. (440) 546-9696 FAX: (440) 546-9699

13212 Shaker Square Suite 204 Cleveland, Ohio 44120 P. 216.752.1800

ARCHITECT:

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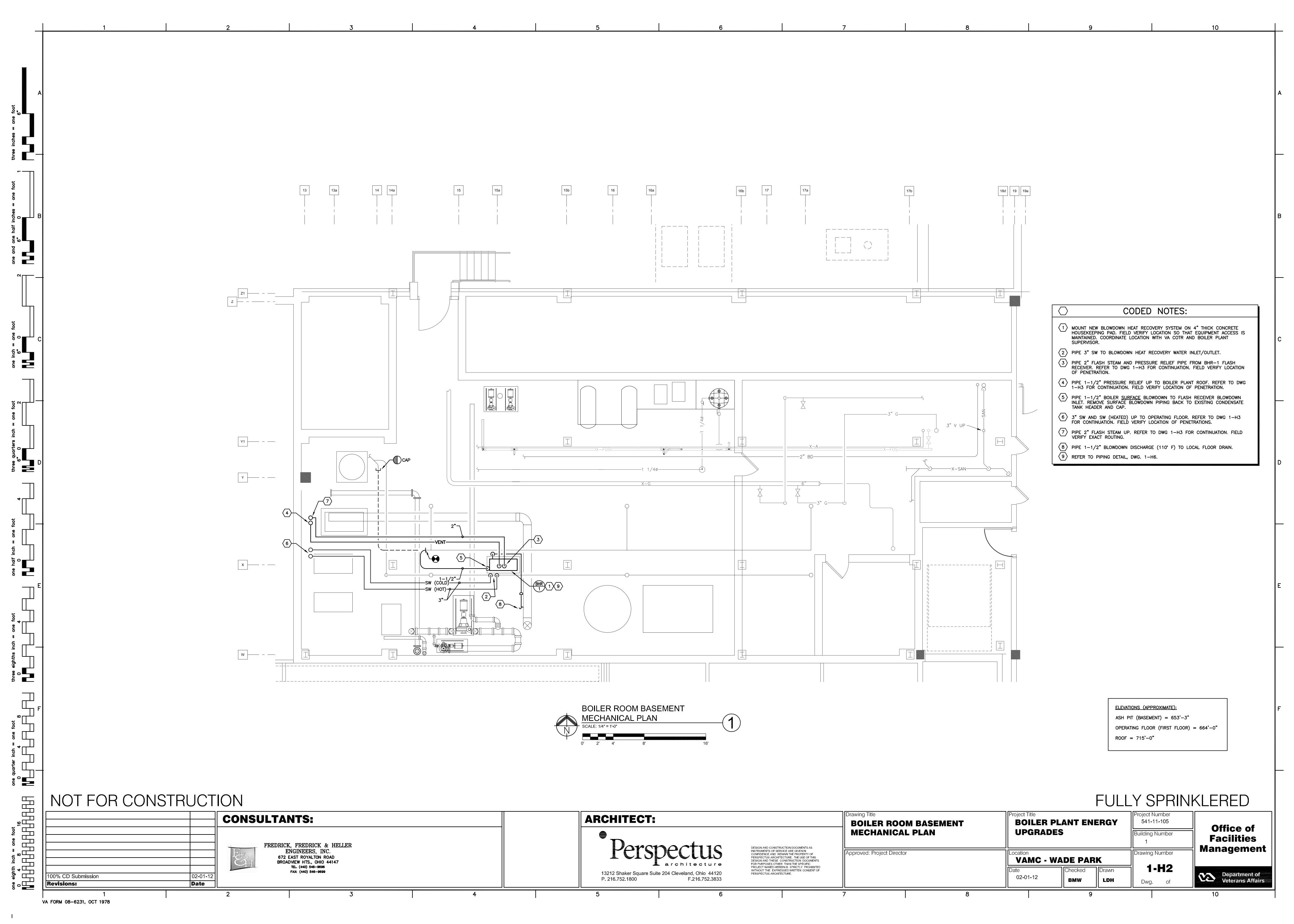
MECHANICAL SYMBOLS, NOTES, AND EQUIPMENT LIST Approved: Project Director

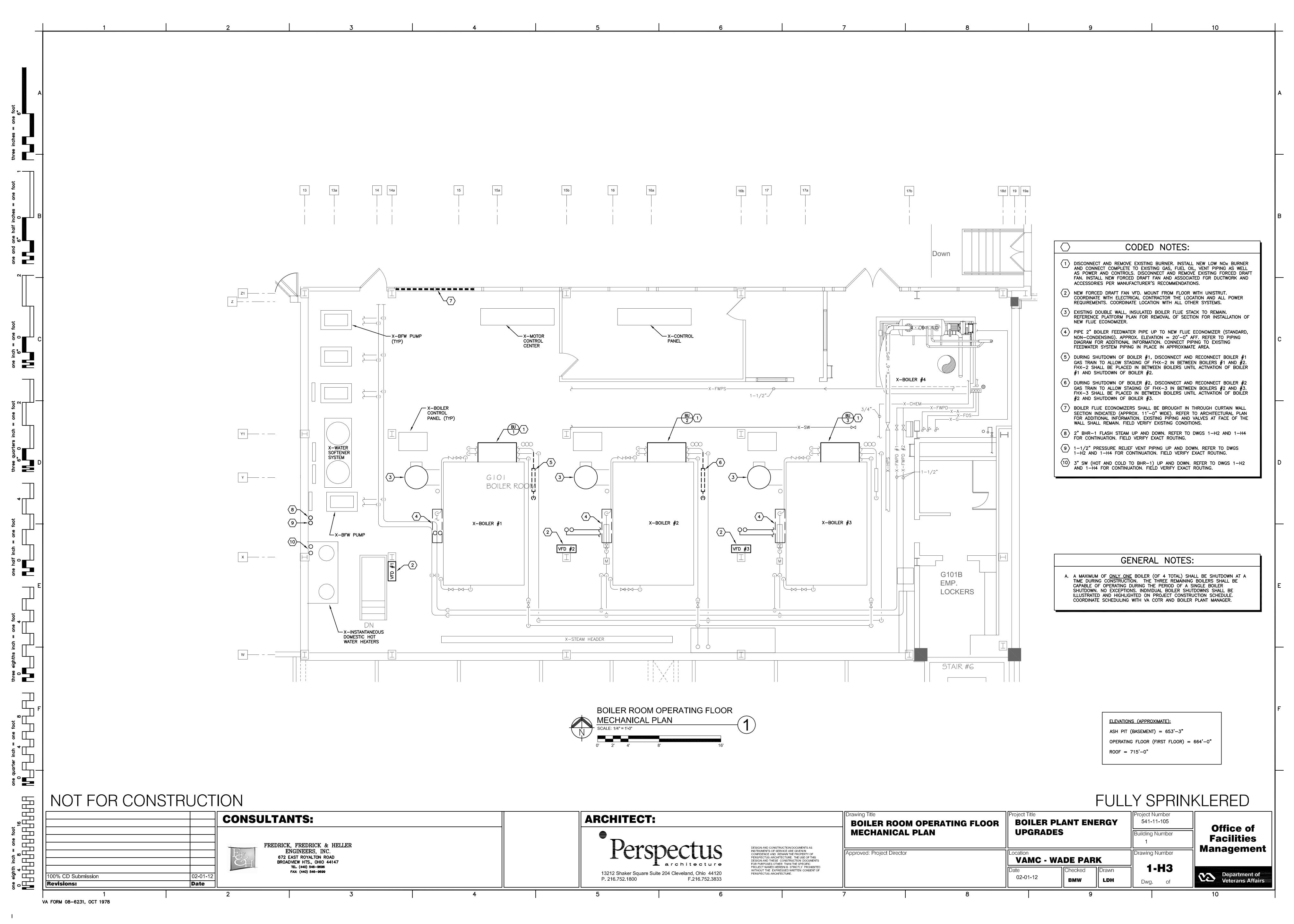
roject Title 541-11-105 **BOILER PLANT ENERGY UPGRADES** Building Number Drawing Number **VAMC - WADE PARK** 1-H1 Checked 02-01-12 **BMW** LDH

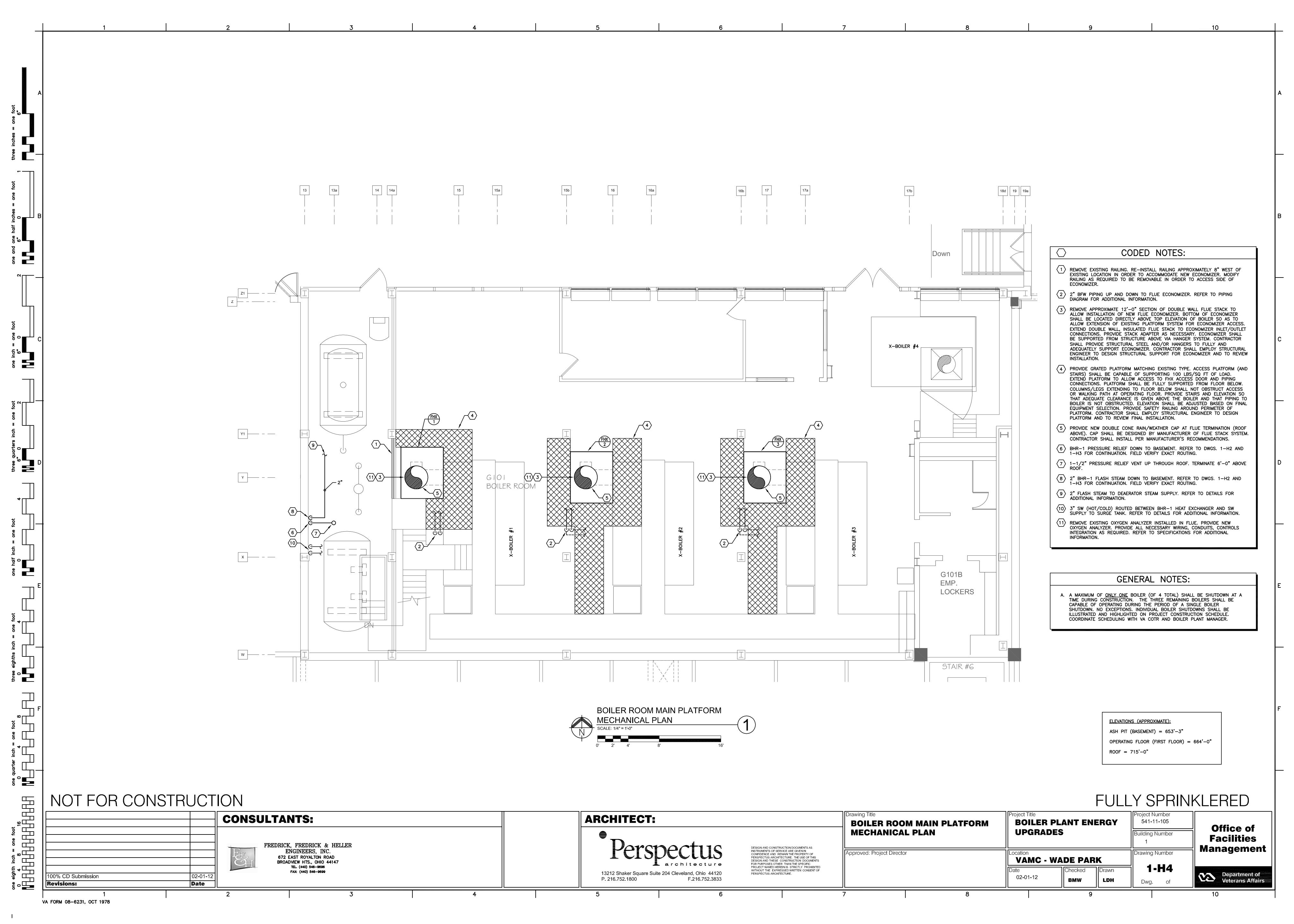
Office of **Facilities** Management

Department of Veterans Affairs

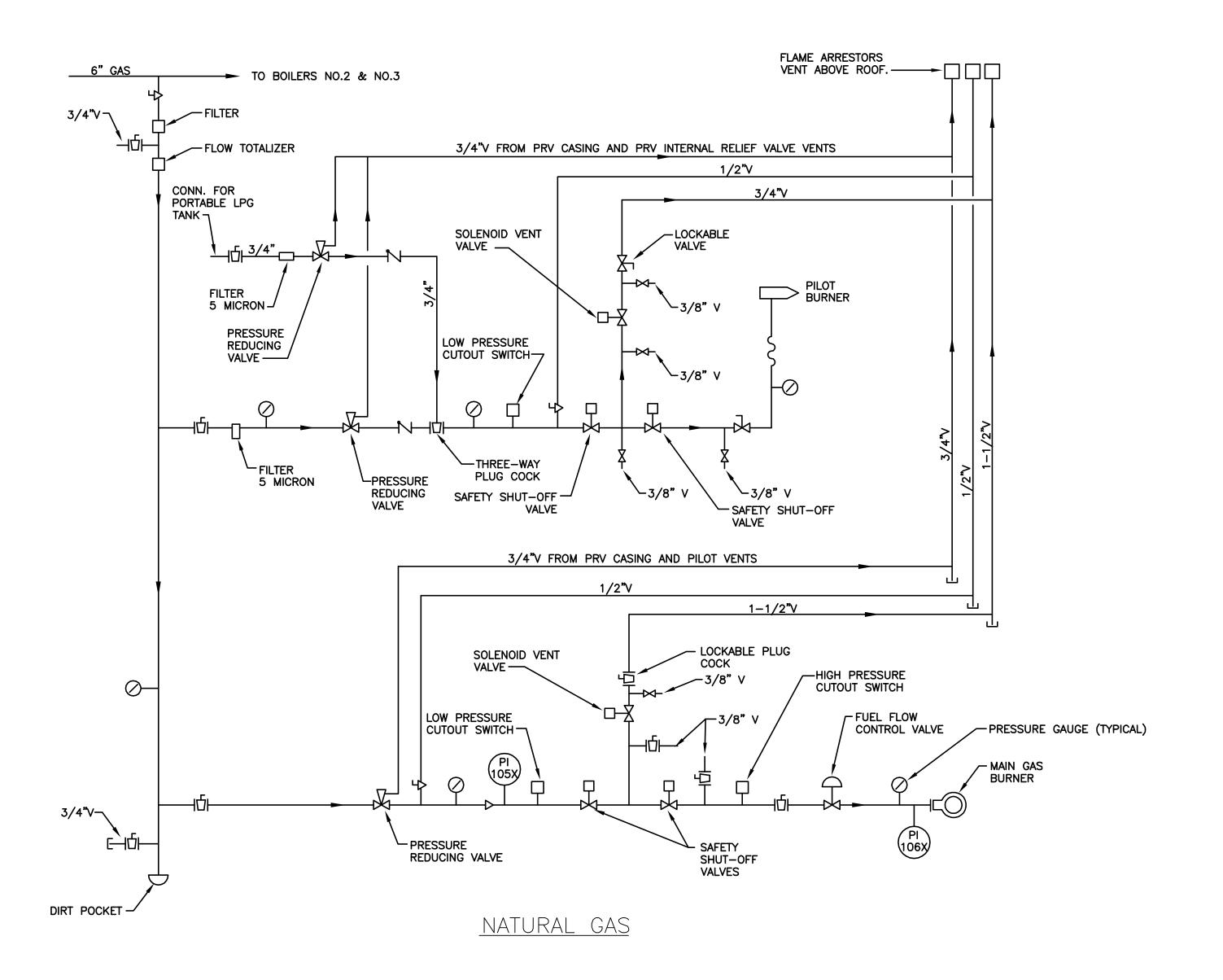
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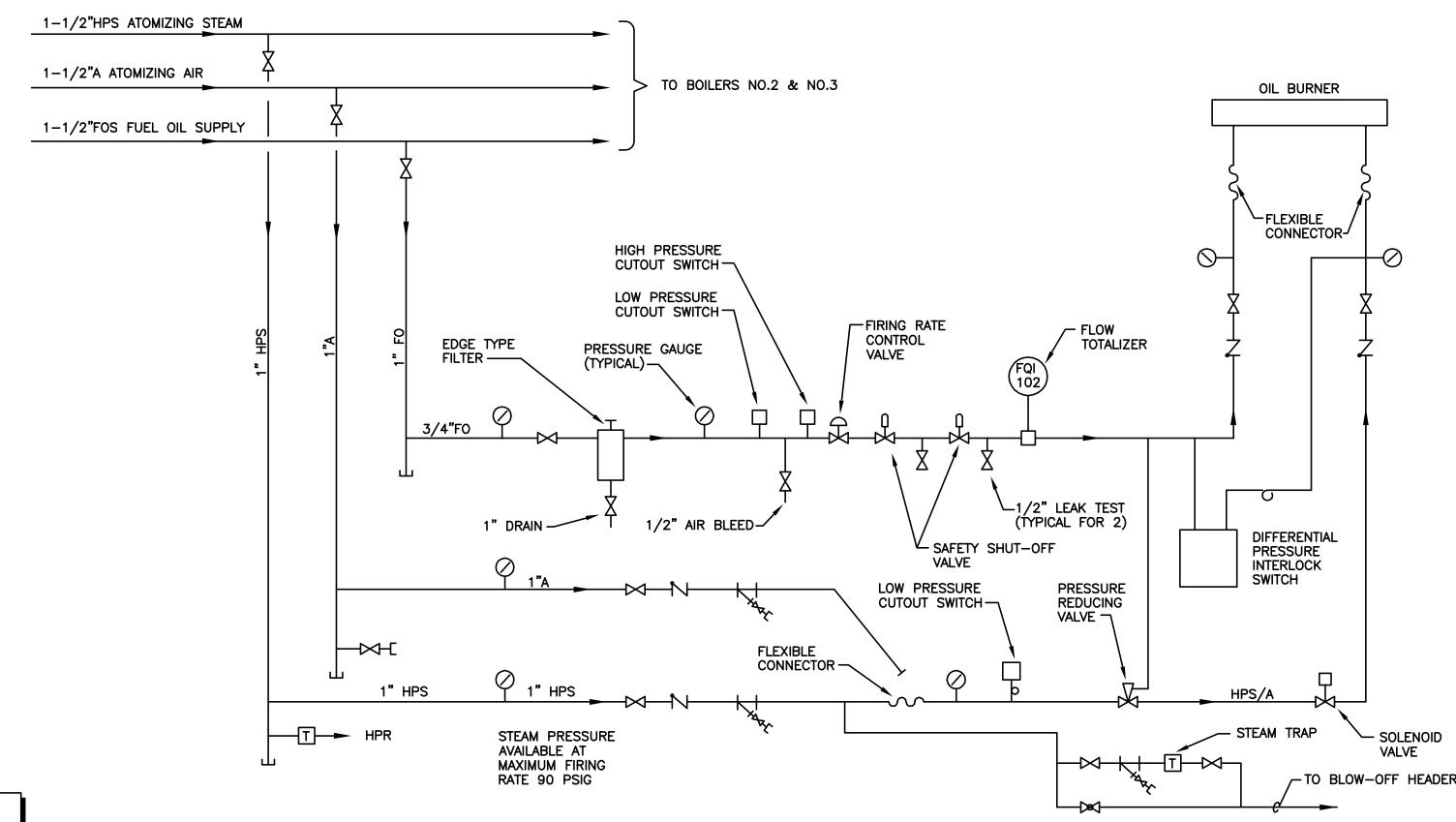






CONTROL DEVICES DESCRIPTION LOCATION EXISTING INSTALL NOTES DEVICE TO REMAIN DEVICE FLOW TOTALIZER FQI-102X BOILER NO. 1 - GAS TRAIN MAINTAIN WIRING TO CONTROL PANEL PI-105X | BOILER NO. 1 - GAS TRAIN PRESSURE INDICATOR CONNECT TO EXISTING CONTROL PANEL PI-106X | BOILER NO. 1 - GAS TRAIN PRESSURE INDICATOR CONNECT TO EXISTING CONTROL PANEL FQI-102 BOILER NO. 1 - FUEL OIL FLOW TOTALIZER CONNECT TO EXISTING CONTROL PANEL FLOW TOTALIZER FQI-202X BOILER NO. 2 - GAS TRAIN MAINTAIN WIRING TO CONTROL PANEL PI-205X | BOILER NO. 2 - GAS TRAIN PRESSURE INDICATOR CONNECT TO EXISTING CONTROL PANEL PI-206X | BOILER NO. 2 - GAS TRAIN PRESSURE INDICATOR CONNECT TO EXISTING CONTROL PANEL FQI-202 BOILER NO. 2 - FUEL OIL FLOW TOTALIZER CONNECT TO EXISTING CONTROL PANEL FQI-302X BOILER NO. 3 - GAS TRAIN FLOW TOTALIZER MAINTAIN WIRING TO CONTROL PANEL PI-305X | BOILER NO. 3 - GAS TRAIN PRESSURE INDICATOR CONNECT TO EXISTING CONTROL PANEL PI-306X | BOILER NO. 3 - GAS TRAIN CONNECT TO EXISTING CONTROL PANEL PRESSURE INDICATOR FQI-302 BOILER NO. 3 - FUEL OIL FLOW TOTALIZER CONNECT TO EXISTING CONTROL PANEL LC101 BOILER 1 LEVEL CONTROLLER CONNECT TO EXISTING SIGNAL LC201 BOILER 2 LEVEL CONTROLLER CONNECT TO EXISTING SIGNAL LC301 BOILER 3 LEVEL CONTROLLER CONNECT TO EXISTING SIGNAL LCV-1C SURGE TANK WATER LEVEL CONTROLLER CONNECT TO EXISTING CONTROLS





FUEL OIL, ATOMIZING, STEAM/AIR

BURNER PIPING SCHEMATICS - TYPICAL

NOT FOR CONSTRUCTION

FULLY SPRINKLERED



GENERAL NOTES:

A. DRAWINGS INDICATE EXISTING GENERAL PIPING CONFIGURATIONS AT BOILER BURNERS FOR

B. EXISTING CONTROL SEQUENCES FOR BOILERS TO BE MAINTAINTED. CONTRACTOR SHALL PRESERVE EXISTING CONTROL SEQUENCES ASSOCIATED WITH EACH BOILER AND UTILIZE UPON START-UP. CONTRACTOR SHALL MAKE NECESSARY MODIFICATIONS AND ADJUSTMENTS

AS NECESSARY BASED ON NEW EQUIPMENT INSTALLED.

REFERENCE. CONTRACTOR SHALL DISCONNECT EXISTING BURNERS AND RECONNECT NEW BURNERS WHILE MAINTAINING EXISTING APPURTENANCES NOT PROVIDED WITH NEW BURNER.

VA FORM 08-6231, OCT 1978

one eighth inch = one foot

0 4 8 16

| HITTHEREFIELD

Office of

Facilities

